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Mr. Dave Croxton
U.S. EPA
1200 Sixth Avenue, M/S HW-106
Seattle, WA 98101

Mr. Croxton:

Enclosed is a copy of the revised Emission and Leak Monitoring Program for the Burlington Environmental Inc. Pier 91 Facility. Revisions were made to Section 5, Recordkeeping Requirements, to reflect the use of daily facility inspections in meeting the periodic monitoring requirements.

If you have any questions or require further information, please contact me at (206) 223-7596.

Sincerely,

John Stiller
Environmental Compliance Manager

USEPA RCRA



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BURLINGTON ENVIRONMENTAL

EMISSION AND LEAK MONITORING PROGRAM

Burlington Environmental, Inc. - Pier 91 Facility

(1/16/91)

(Revised 6/8/92)

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INTRODUCTION

This "Emission and Leak Monitoring Program" is presented to comply with the regulations for "Hazardous Waste Treatment, Storage and Disposal Facilities - Organic Air Emission Standards for Process Vents and Equipment Leaks" [55 FR 25454], June 21, 1990.

The monitoring program is divided into six Sections; (1) Scope, (2) Monitoring Plan, (3) Repair Procedures, (4) Instrument Specifications and Calibration Procedures, (5) Recordkeeping Requirements, and (6) Equipment Service and Waste Analyses.

The Scope section presents the applicable regulations for appropriate portions of the facility. The Monitoring Plan describes the frequency and procedures used in monitoring for "leaks". The Repair Procedures describe the methods and time frames in which a discovered leak is repaired. The Instrument Specifications and Calibration Procedures provide documentation to verify compliance with EPA Method 21 requirements for monitoring instruments. The Recordkeeping Requirements section provides a description of the monitoring and calibration recordkeeping, and the semi-annual report requirements. The Equipment Service and Waste Analyses section provides a description of the types of waste contained in equipment at the facility.

Section 1 - Scope

This program is implemented to satisfy the regulations for "Hazardous Waste Treatment, Storage and Disposal Facilities - Organic Air Emission Standards for Process Vents and Equipment Leaks" [55 FR 25454], June 21, 1990.

The requirements for complying with the regulation are separated into two monitoring compliance programs (1) Emission Standards for Process Vents and (2) Equipment Leaks. To be subject to the emission standards for process vents, the facility must have distillation or stripping operations that process hazardous wastes with concentrations of organics greater than 10 ppm. The Pier 91 Facility has no distillation or stripping operations and is therefore not subject to emission standards for Process Vents.

To be subject to the equipment leak requirements, equipment must contain greater than 10 percent organics and be in hazardous waste operations or recycling operations adjacent to hazardous wastes operations. To satisfy the equipment leak requirements, specified equipment associated with Dangerous Waste tank systems are monitored for leaks according to the requirements for equipment in Heavy Liquid Service as described in Section 2, Monitoring Plan. Specific equipment subject to these regulations are shown on the monitoring forms presented in Appendix A.

Any leaks determined by monitoring are repaired as specified in Section 3, Repair Procedures and recorded as described in Section 4, Recordkeeping Requirements.

Section 2 - Monitoring Plan

Part 1 - Testing Requirements

Testing requirements are based on the equipment type and service. Equipment (excluding tanks and containers) which contain greater than 10 percent organics are monitored periodically according to the equipment type and service. All of the material handled at this facility are heavy liquids as defined by 40 CFR 264.1031. This determination was made from extensive knowledge of the processes at the facility as well as Metro permit conditions. The monitoring requirements for each equipment type are presented as follows:

1. Sampling Connection Systems:

Each sampling connection system must be equipped with a closed-purge system or closed-vent system and must be operated with "No Detectable Emissions" or vented to a control device.

2. Open-ended Valves or Lines:

Open-ended valves or lines must be equipped with a cap, blind, flange, plug, or a second valve. Each open-ended valve or line equipped with a second valve shall be operated by closing the valve on the hazardous waste stream end before the second valve is closed.

3. Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light or Heavy Liquid Service, and Flanges and other connectors:

These equipment items are monitored to determine if a "Leak" exists, if there is evidence of a potential leak by visual, audible, olfactory, or any other detection method. "Leak" testing is performed within five days of discovering a potential leak.

Under usual practice, if there is sensory evidence of a potential leak, the existence of a leak will be presumed. A first attempt at repair will be performed within five days of discovery of the potential leak and the leak will be repaired as soon as practicable, but no later than 15 days after the leak was discovered.

Part 2 - Testing Procedures

Procedures for testing consist of detection of "Leaks" (greater than 10,000 ppm Organics). The monitoring program is conducted using methods specified in 40 CFR Part 60 Appendix A, Method 21, "Determination of Volatile Organic Compounds Leaks". Monitoring frequency and type is shown in Table 1, Monitoring Requirements for Equipment.

"Leaks" Testing Procedure

1. Place the probe inlet at the surface of the component interface where leakage could occur.
2. Move the probe along the interface periphery while observing the instrument readout.

3. If an increased meter reading is indicated, slowly sample the interface where leakage is indicated until the maximum meter reading is obtained and leave the probe inlet in that position for approximately two times the response time.

4. If the maximum reading is greater than 10,000 ppm, a "leak" in the component has been identified. A maximum reading of less than 10,000 ppm does not indicate a component leak.

5. Specific "Leak" Testing Requirements for Equipment Types are presented below:

(a) Valves

- Place the probe at the interface where the stem exits the packing gland and sample the stem circumference.

- Place the probe at the interface of the packing gland take-up flange seat and sample the periphery.

- Survey valve housings of multipart assembly at the surface of all interfaces where a leak could occur.

(b) Flanges and Other Connections

- Place the probe at the outer edge of the flange-gasket interface and sample the circumference of the flange.

- Sample other types of non-permanent joints (such as threaded pipe) with a similar traverse.

(c) Pumps and Compressors

- Conduct a circumferential traverse at the outer surface of the pump or compressor shaft and seal interface.
- If the source is a rotating shaft, position the probe inlet within 1 cm of the shaft-seal interface for the survey.
- If the housing configuration prevents a complete traverse of the shaft periphery, sample all accessible portions.
- Sample all other joints on the pump or compressor housing where leakage could occur.

(d) Pressure Relief Devices

- Place the probe inlet at approximately the center of the exhaust area to the atmosphere.

(e) Process Drains

- For open drains, place the probe inlet at approximately the center of the area open to the atmosphere.
- For closed drains, place the probe at the surface of the cover interface and conduct a peripheral traverse.

(f) Open-Ended Lines or Valves

- Place the probe inlet at approximately the center of the opening to the atmosphere.

(g) Seal System Degassing Vents and Accumulator Vents

- Place the probe inlet at approximately the center of the opening to the atmosphere.

(h) Access Door Seals

- Place the probe inlet at the surface of the door seal interface and conduct a peripheral traverse.

For identified "leaks", a visible weather proof identification number will be attached to the equipment item. The identification will not be removed from the equipment item until it has been repaired and confirmed by monitoring.

TABLE 1: MONITORING SCHEDULE

EQUIPMENT TYPE	MONITORING FREQUENCY	CATEGORY OF MONITORING
Pressure Relief Devices (liquid service) Pumps & Valves (heavy liquid service) Flanges & Other Connections (all service)	When there is evidence of a potential leak found by visual, audible, or any other detection method, within 5 days	"Leak"

Gas/Vapor Service: The piece of equipment contains or contacts a hazardous waste stream that is in the gaseous state at operating conditions.

Light Liquid Service: The piece of equipment contains or contacts a waste stream where the vapor pressure of one or more of the components in the stream is greater than 0.3 kilopascals (kPa) at 20°C, the total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20°C is equal to or greater than 20 percent by weight, and the fluid is a liquid at operating conditions.

Heavy Liquid Service: The piece of equipment contacts a waste streams that is not in gas/vapor service or in light liquid service.

Section 3 - Repair Schedule

Repairs to equipment must be completed as soon as practicable, but not later than 15 days after the detection of a leak. A first attempt at repairing the leak shall be made within five days of detection of a leak. Delays for repair of the following equipment are allowed if the criteria presented below are met:

1. Delays for equipment repairs are allowed if the repair is technically infeasible without the shutdown of the hazardous waste unit or if the equipment is isolated from HAZARDOUS WASTE with greater than 10 percent organics.
2. Delays for valve repairs are allowed if the emissions of purged material resulting from immediate repair of the valve would be greater than the emissions resulting from delays in repair, and the purged material is collected and destroyed or recovered by a control device when the repair is effected.
3. Delays for pump repairs are allowed for changing to dual seal pumps, and if the repair is completed as soon as practicable, but no later than six months after the leak is detected.

Documentation procedures for repairs and confirmational monitoring is described in Section 5, Recordkeeping Requirements.

Section 4 - Instrument Specifications and Calibration Procedures

Part 1 - Instrument Specifications

Monitoring shall comply with Reference Method 21 in 40 CFR Part 60. The detection instrument, a Foxboro OVA 108, meets the performance criteria of 40 CFR Part 60 Appendix A, Reference Method 21.

The Foxboro OVA 108 is a portable VOC monitoring instrument which has a flame ionization detector. The meter reading of the instrument allows readings of 1 - 10,000 ppm VOCs in air. The meter scale is logarithmic and is readable to within 250 ppm at the high end of the logarithmic scale. The monitor is equipped with an electrically driven pump to allow a constant flow rate of approximately 2 liters/min. The Foxboro OVA 108 is FM and BASEEFA certified intrinsically safe for use in Class I, Groups A, B, C, and D, Division 1 hazardous locations.

Part 2 - Calibration

The instrument is calibrated before use on each day of use. Calibration gases shall be (1) zero air (less than 10 ppm of hydrocarbon in air), and (2) a calibration gas consisting of a mixture of methane in air at approximately, but less than, 10,000 ppm. The calibration gas is certified to be within \pm 2.0 percent accuracy.

Calibration procedures include the following:

1. Turn on the monitor and allow to warm up according to manufacturer's instruction.
2. Introduce the zero gas and zero the instrument to the zero concentration (i.e. zero gas with 5 ppm methane should be zeroed at 5 ppm).
3. Introduce the calibration gas and adjust the instrument meter readout to correspond to the calibration gas value.
4. Repeat Steps 2 and 3 as indicated by the manufacturers instructions.

Part 3 - Performance Evaluation Requirements

Response Factors

A published list of response factors for the OVA 108 are provided in Appendix B - Monitor Information.

Calibration Precision Test

Calibration precision testing will be performed before the analyzer is placed into service and at three month intervals or at the next use whichever is later.

The calibration precision test is performed by making a total of three measurements by alternately using zero gas and the specified calibration gas. The meter readings are recorded and the average algebraic differences between the meter readings and the known value is calculated. The average difference is divided by the known value and multiplied by 100. The result is the calibration precision presented as a percentage. This value must be less than 10

percent for the analyzer to be considered acceptable for service.

Response Time Test

Response time test is performed prior to placing the analyzer into service and after any modification to the pumping system or flow configuration.

The response time test is performed by first introducing the zero gas into the instrument sample probe. When the meter reading has stabilized, the calibration gas is quickly introduced. The time from switching to the calibration gas until the meter reading reaches 90 percent of the final stable reading is recorded as the response time. This test is performed three times and the results are recorded. The average response time is then calculated and recorded. The average response time must be less than 30 seconds for the analyzer to be considered acceptable for use in this program.

Section 5 - Recordkeeping Requirements

Monitoring records of facility equipment will be kept on daily inspection forms in use at the facility.

Inspections

Inspections for evidence of potential leaks will be conducted as part of the daily inspections at the facility. When a potential leak is determined it shall be marked with a weather resistant marking indicating the date of discovery of the potential leak. The marking will be removed when repair is effected or when it is determined that a leak does not exist.

When a potential leak is discovered, one of the following will occur.

1. The potential leak will be repaired within five days of discovery. The date of discovery and dates of repair and attempted repair will be entered into the facility's inspection record.
2. The potential leak will be monitored by the monitoring procedures described in Section II Monitoring Plan. If a leak is determined to exist, the leak will be repaired as described in Section 3, Repair Schedule. The date of discovery of the potential leak, the date of confirmational monitoring, the dates of attempted repair and date of repair will be entered into the inspection record.

Calibration Information

The required calibration information discussed in Section 4, Instrument Specification and Calibration Procedures, will be maintained in the "Emission and Leak Monitoring Program" notebook at the facility.

Repair Forms

When monitoring has been completed, these forms are kept on file in the "Emission and Leak Monitoring Program" notebook. Results for any leaks discovered during monitoring will be entered onto the repair request form. The repair request form will have columns to enter the following information:

- Operator name.
- Equipment identification number.
- The date evidence of a potential leak was found.
- The date the leak was detected and the dates of each attempt to repair the leak.
- Repair methods applied in each attempt to repair the leak.
- "Above 10,000" if the maximum instrument reading measured after each repair attempt is equal to or greater than 10,000 ppm.
- "Repair Delayed" and the reason for delay if a leak is not repaired within 15 days.
- Documentation supporting the delay of repair of a valve.
- The signature of the owner or operator (or designee) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.
- The expected date of successful repair of the leak if a leak is not repaired within 15 days.

- The successful repair date.

The repair request form will be given to the plant manager or to the plant superintendent with a copy being sent to the regulatory affairs compliance officer overseeing the monitoring program. Within five days the documentation of the attempted repair or reason for delay will be sent by the facility to the compliance officer. The repair will be confirmed by monitoring or the repair request form will be reissued. The final repair will be completed and confirmed by monitoring within fifteen days of the initial discovery of the leak or the reason for the delay will be documented in accordance with 40 CFR 264.1059.

Modifications to Equipment

A description of each modification made to the equipment containing greater than 10 percent organics will be kept in the "Emission and Leak Monitoring Program" notebook at the facility. The description will include the date of modification and a complete description of modifications made.

Examples of the monitoring forms and the repair documentation form are presented in Appendix A, Monitoring Forms.

Semi-annual Reporting Requirements

A semi-annual report may be required if leaks are not repaired within the time frame specified in Section 3, Repair Procedures. If a semi-annual report is required, the following information will be provided:

- EPA identification number,

- Name and address of the facility,
- For each month, the equipment identification number of each valve, pump, or compressors which was not repaired in the required time frame specified in Section 3, Repair Procedures, and
- Dates of hazardous waste management unit shutdowns during the semi-annual period.

A copy of all monitoring, repair, and modification forms will be kept on file with corporate Engineering.

Section 6 - Equipment Service and Waste Analyses

This program satisfies the monitoring requirements for determination and repair of "leaks" in equipment.

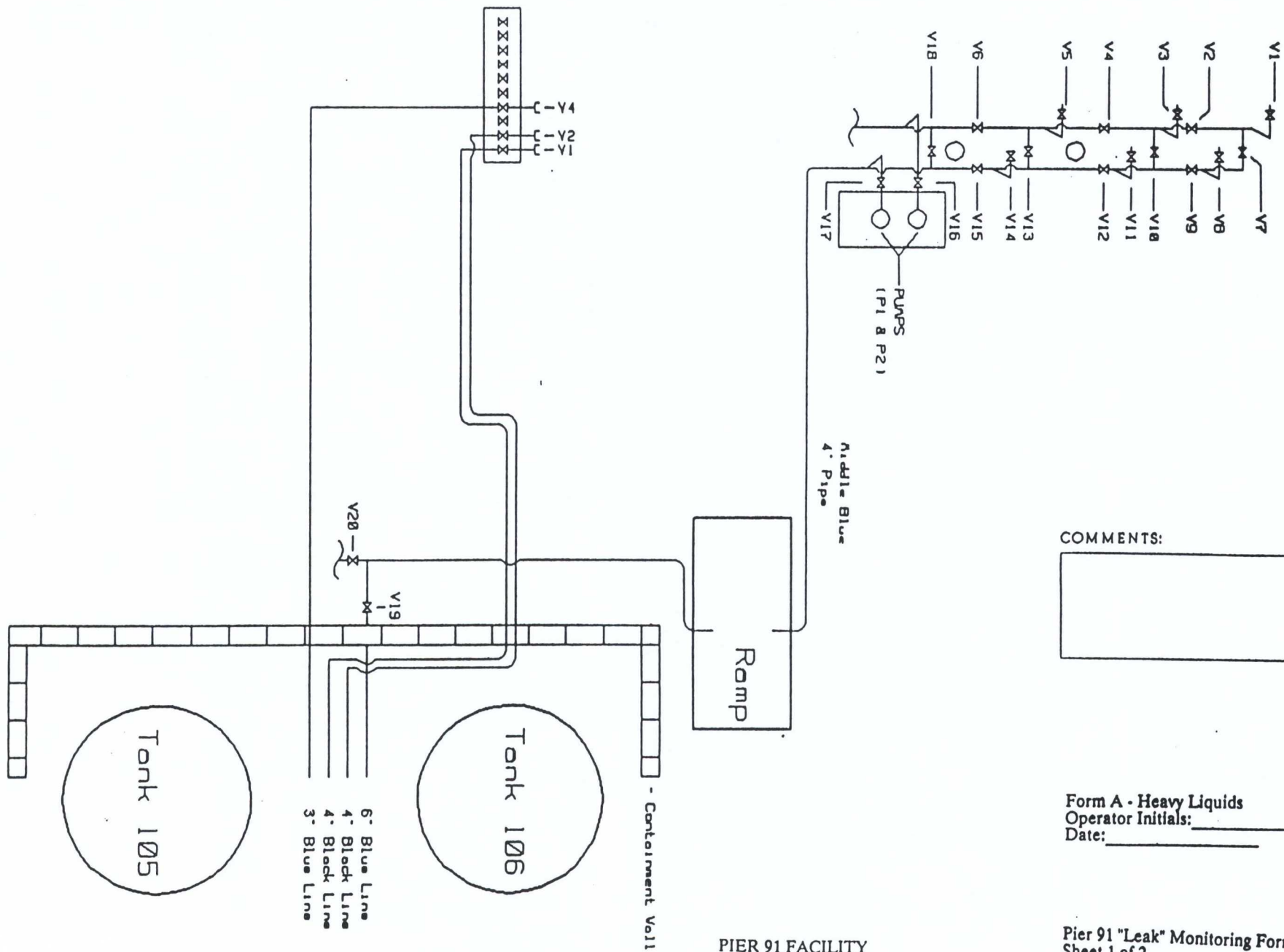
Equipment Monitored for Leaks

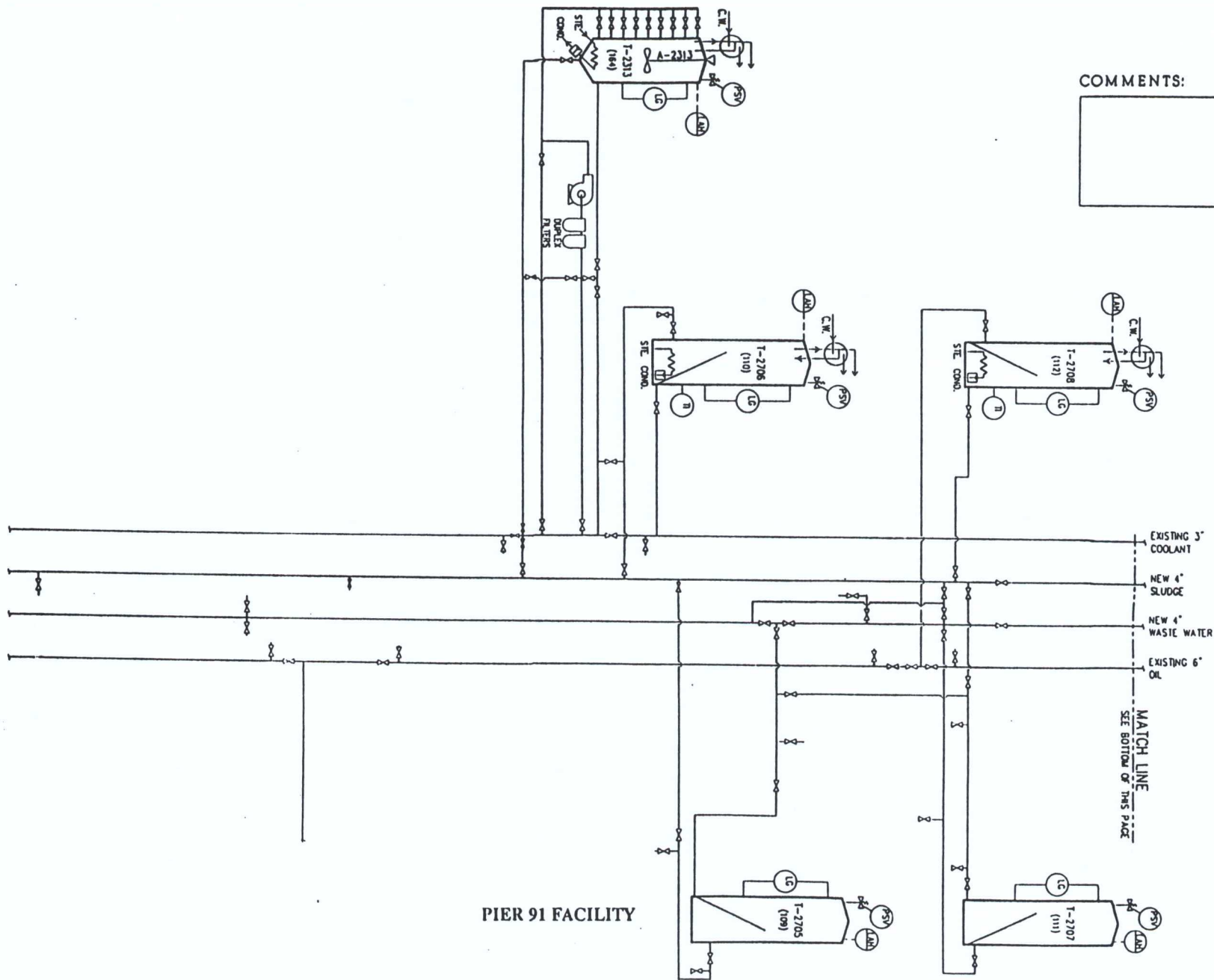
The equipment (excluding tanks) associated with operations at the facility that contain greater than 10 percent organics are monitored in accordance with the Section 2, Monitoring Plan. The specific equipment items required to be monitored are provided on the Monitoring Forms shown in Appendix A.

The general types of wastes received at the Pier 91 Facility containing greater than 10 percent organics are waste oils and waste coolants with varying amounts of water. Dangerous waste tank systems at the facility are used for storage of dangerous waste and are subject to the permitting requirements of 40 CFR Part 270. Specific equipment regulated is shown on the monitoring forms in Appendix A.

Examples of constituents of the wastestreams are presented in Appendix C, Typical Organic Wastestream Constituents.

APPENDIX A
RECORDKEEPING FORMS





COMMENTS:

Form B - Heavy Liquids
Operator Initials: _____
Date: _____

Pier 91 "Leak" Monitoring Form
Sheet 2 of 2

APPENDIX B
MONITOR INFORMATION

CHEMICAL PROCESSORS, INC. - PIER 91 FACILITY

Leak Repair Form

[illegible]

BURLINGTON ENVIRONMENTAL, INC.

Monitor Type: Foxboro Ova 108 (Serial # _____)

Calibration Precision Testing - Frequency: (3 months)

Date	Zero Gas CH ₄ Concentration (ppm)	Calibration Gas CH ₄ Concentration (ppm)	Monitor Reading (ppm)	Average Difference (ppm)	Calibration Precision (%)	Individual Testing Name & Signature

Response Time Testing - Frequency: (When Placed in Service or After Modification to Flow System)

Date	Zero Gas CH ₄ Concentration (ppm)	Calibration Gas CH ₄ Concentration (ppm)	Time Required to Reach 90% of Final Value (sec)	Average Response Time (sec)	Individual Testing Name & Signature
			_____		_____

			_____		_____

BURLINGTON ENVIRONMENTAL INC. - KENT FACILITY
Modifications to Equipment Form

Frequency: Any Modification Made to Solvent Processing Area Not Covered in Leak Repair Form.

Date(s) of Modification	Equipment Numbers Affected	Description of Modifications Made	Individual in Charge of Modifications Name and Signature